

IN THE SPECIFICATION:

Please amend paragraph number [0009] as follows:

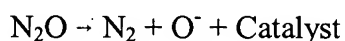
[0009] Accordingly, a method and apparatus ~~is~~ are needed that ~~reduces, if not, prevents~~ reduce, if not prevent, the unreacted N<sub>2</sub>O from becoming super critical to ensure the uniform processing of the semiconductor wafers.

Please amend paragraph number [0010] as follows:

[0010] According to the present invention, a method and apparatus for preventing N<sub>2</sub>O from becoming super critical during a high pressure oxidation stage within a high pressure oxidation furnace are disclosed. The method and apparatus utilize a catalyst to catalytically disassociate N<sub>2</sub>O as it enters the high pressure oxidation furnace. This catalyst is used in an environment of between five (5) atmospheres to twenty-five (25) atmospheres N<sub>2</sub>O and a temperature range of 600° to 750°C., which are the conditions that lead to the N<sub>2</sub>O going super critical. By preventing the N<sub>2</sub>O from becoming super critical, the reaction is controlled such that it prevents both temperature and pressure spikes. The catalyst can be selected from the group of noble transition metals and their oxides. This group can comprise Palladium, Platinum, Iridium, Rhodium, Nickel, Silver, and Gold.

Please amend paragraph number [0016] as follows:

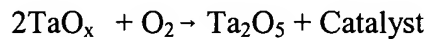
[0016] Catalyst matrix liner 20, which is also shown in drawing FIG. 2, is comprised of a catalyzing agent that causes the N<sub>2</sub>O gas in the furnace 10 to react to form the base components of nitrogen and oxygen of the N<sub>2</sub>O gas according to the following reaction:



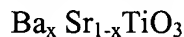
The use of ~~the~~ a catalyst constrains the chemical reaction from running away or becoming uncontrollable, which would cause a pressure and temperature surge within the furnace 10. Such surges must be avoided as they destroy the semiconductor materials under fabrication within the furnace 10 as well as ~~causing~~ cause the possible destruction of the furnace tube 12.

Please amend paragraph number [0017] as follows:

[0017] Catalyst materials are selected from the group consisting of Palladium, Platinum, Iridium, Rhodium, Nickel, and Silver. Gold also can be used as a catalyst, but should be avoided as gold contaminates the silicon used in the wafers on which semiconductor devices are formed. Additional catalysts include perovskites, ~~CaTiO<sub>3</sub>~~, CaTiO<sub>3</sub>, a natural or synthetic crystalline mineral composed of calcium dioxide and titanium dioxide. When using a Tantalum compound to form the gate oxide or the cell dielectric for the transistors of a semiconductor device, a tantalum oxide is produced in the N<sub>2</sub>O atmosphere in the furnace 10. The oxygen from the N<sub>2</sub>O combines with the tantalum oxide according to the following reaction:



The use of the catalyst material helps to drive this reaction nearly to full ~~stoichiometry~~. stoichiometry. When used with ~~the~~ a Barium Strontium Titanate compound, the catalyst allows the oxidation to produce:



which is driven to ~~full a~~ a full stoichiometry reaction as well.